Prevention bulletin
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Get On Your Toes Before an Influenza Pandemic Starts

By Will Humble, M.P.H.

Health care providers will play a critical role during all phases of an influenza pandemic in Arizona and throughout the world. As health care providers you will play a critical role in initial case identification, reporting and surveillance, community infection control, antiviral distribution, vaccine administration, and health care system management.

Getting Ahead of the Game

Your role during a pandemic is critical, and getting ahead and staying informed will be the key to improving your effectiveness. Clinical guidelines, case definitions, procedures for screening and reporting, infection control, laboratory testing, antiviral regimens, and the availability of antivirals and vaccine will change rapidly during the course of a pandemic. Clinicians will need to regularly consult updates on case definitions, screening, laboratory testing, and treatment guidelines for pandemic influenza and be prepared to report pandemic influenza cases or fatalities as requested by your local health department. In addition, clinicians should be on the alert and report atypical cases, breakthrough infections while on prophylaxis, or any other abnormal cases throughout the duration of the pandemic to public health agencies.

Getting up to speed on these things before a pandemic starts will give you a head start on the current clinical and public health recommendations. This will allow you to be better able to make informed decisions about patient management and more effectively participate in early surveillance, community infection control, and vaccine and antiviral distribution. The federal pandemic influenza website provides a nice information hub for you to stay informed at *www.pandemicflu.gov*.

Early Detection of Cases

The first thing that you will be asked to participate in is early surveillance. Health care providers will be in the best position to detect an index case of pandemic influenza in a community. Early identification of cases is critical because rapid identification and isolation of initial cases may help slow the spread of influenza within a community if prompt and effective isolation and quarantine measures are taken.

Since a new pandemic strain of influenza is very unlikely to originate in Arizona, taking and closely examining the travel history of patients with symptoms of influenza will be the key to finding early cases.

Right now, the likelihood of novel influenza virus infection is very low in a returned traveler from Southeast Asia who has severe respiratory disease or influenza-like illness. However, if local person-to-person transmission of a new influenza virus strain is confirmed at some point in the future, the potential for new-strain influenza virus infection will be higher in a patient with an epidemiologic link to an affected area. Your local health department can be helpful in determining whether a sick patient with a travel history to an affected area might be an index case.

In order to increase your chances of finding early cases, you will need to stay up-to-date with the latest clinical and epidemiological information from around the world. Up to date information for clinicians will be posted at *www.cdc.gov* to help you find early cases. The World Health Organization also has updated information at: *www.who.int/en/*.

Get Involved

ADHS is currently in the process of revising and updating Arizona's Pandemic Influenza Preparedness Plan, which is posted at: *http://www.azdhs.gov/phs/oids/epi/pandemic_flu.htm*.

In February, the Department will be organizing an interdisciplinary Pandemic Influenza Coordinating Committee to improve the plan and to bring critical partners into the mix. If you would like to participate in the Committee please contact Will Humble at *humblew@azdhs.gov*.

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Arizona Department of Health Services

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Special Collector's Edition

This is the last hard copy issue of Prevention Bulletin. The Prevention Bulletin is going all electronic. Future issues will be available on the ADHS website at www.azdhs.gov under the Prevention Bulletin heading. Simply fill out and return the the card insert to receive the link for future issues.

Antiviral Medications

by Karen Lewis,M.D.

Although recent media attention has focused on avian influenza, patients in the United States are at much higher risk this winter from the regular winter outbreak of human influenza.

Antiviral medicines are very useful for the treatment and prevention of influenza. By learning how to use antivirals for influenza, health care providers can benefit their patients every winter, as well as preparing for pandemic influenza.

Human influenza is caused by influenza A and influenza B. Influenza outbreaks in North America come every winter, and start as early as November or as late as February. There is also variability as to which strain of influenza A or B circulates each year. The current avian influenza in southeast Asia is an influenza A (H5N1).

Antivirals

There are four antivirals for influenza that are licensed in the United States: two are amantadanes, and two are neuraminidase inhibitors. The amantadanes' spectrum is limited to influenza A, whereas neuraminidase inhibitors are effective against both influenza A and influenza B.

The amantadanes are Amantadine (Symmetrel®) and Rimantadine (Flumadine®). They are both given orally. The neuraminidase inhibitors are Oseltamivir (Tamiflu®) and Zanamivir (Relenza®). Oseltamivir is given orally, whereas Zanamivir is given by an inhaler.

Antivirals will shorten the course of influenza when given within the first 1-2 days of symptoms. They can also be used as prophylaxis against influenza. Antivirals should be avoided in pregnant women unless the benefit outweighs the risk.

Treatment

The greatest benefit occurs when antivirals are given within the first 48 hours of symptoms. Therefore, providers should start antivirals when rapid testing or clinical suspicion suggests that the patient's illness is either influenza A or B.

Treatment with Amantadine or Rimantadine is given for 3-5 days, or until the patient is afebrile for 1-2 days. Amantadine is approved for treatment in ages ≥ 1 year old; Rimantadine is approved for treatment in ages ≥ 13 years old. Treatment with Oseltamir and Zanamivir is given for 5 days. Oseltamivir is approved for use in ages ≥ 1 year old; Zanamivir is approved for treatment in ages ≥ 7 years old. [See tables 1& 2]

Prophylaxis

Influenza antivirals are used to prevent influenza in several ways ways. They can be prescribed to people who have been exposed to someone with influenza. They are usually prescribed for seven days, although when used in an institutional outbreak, they can be given for a longer period of time.

Antivirals can be given to high-risk people who are unable to receive an influenza vaccine (e.g. in egg allergy). This prophylaxis should be timed for use during the 6-8 weeks in winter when influenza is circulating in a community.

A third use for antivirals is when high-risk patients are late for getting their influenza shot. If a patient has not received vaccination until influenza is already circulating in the community, they can still be vaccinated. However, at the same time, an antiviral can be prescribed for two weeks, in order to protect against influenza during the 2 weeks that antibodies are developing to the vaccine.

Amantadine and rimantadine are licensed for prophylaxis in ages ≥ 1 year old, and oseltamivir is licensed for prophylaxis in ages ≥ 13 years old. Zanamivir is not licensed for prophylaxis. [See tables 1 & 2]

Priority Groups

Recommendations for antiviral use depend on the supply in the community. When there is a shortage of antiviral medications, antiviral use should be focused on specific priority groups.

Treatment priority groups are: 1) People with a potentially life-threatening influenza-related illness, and 2) People at high risk for serious complications of influenza and who are within the first 2 days of illness onset.

Prophylaxis priority groups are: 1) All residents and workers during an institutional outbreak, and 2) People at high risk of serious influenza complications if they are exposed to a known or suspected case of influenza.

Where Antiviral Supply Is Sufficient

When there is enough local supply of antivirals, *treatment* can be given to adults and children > 1 years old who have influenza infection, but who are not at high risk for serious complications.

Table 1: Characteristics of Antiviral Medications

	Amantadine (Symmetrel®)	Rimantadine (Flumadine®)	Oseltamivir (Tamiflu®)	Zanamivir (Relenza®)
Effective for Influenza A	Yes	Yes	Yes	Yes
Effective for Influenza B	No	No	Yes	Yes
Mode	Oral	Oral	Oral	Inhaled
Treatment	≥ 1 y.o.	≥ 13 y.o.	≥ 1 y.o.	≥ 7 y.o.
Prophylaxis	≥ 1 y.o.	≥ 1 y.o.	≥ 13 y.o.	Not licensed

Antiviral Medications

In addition, *prophylaxis* can be offered during the time that influenza viruses are circulating in the community (usually for 6-8 weeks) to the following people: 1) Persons at high risk of serious complications who have not been able to get vaccinated, 2) Persons at high risk of complications but who have not had time to mount an adequate immune response, 3) People with immunosuppressive conditions who are not expected to mount an adequate antibody response to influenza vaccine, and 4) Health care workers with direct patient care responsibilities who have not been vaccinated.

Empiric Antiviral Choices

The proper selection of amantadanes or neuraminidase inhibitors depends on the circulating viruses in the community. In general, amantadanes are used for empiric prophylaxis, and neuraminidase inhibitors are used for empiric therapy. However, if influenza A is the only strain known to be in circulation, amantadanes are an excellent empiric treatment choice.

If a person has close exposure to a patient with documented influenza B infection, oseltamivir would be the drug of choice for *prophylaxis,* since neither amantadine nor rimantadine are effective against influenza B. Conversely, if a patient has been started a neuraminidase inhibitor (either oseltamivir or zanamavir) for treatment of a presumed influenza infection, and testing shows it to be influenza A, then either amantadine or rimantadine would currently be the drugs of choice for *treatment*.

Side Effects & Dosing

Influenza antiviral medications are usually well tolerated. Side effects of Amantadine can include dry mouth, trouble concentrating, insomnia, and lowered seizure threshold. The dose should be decreased in people over 65 years old, in renal insufficiency, and when people are having side effects. Rimantadine side effects are similar but less common. The daily dose for both Amantadine and Rimantadine is the same for treatment and prophylaxis: in adults it is 100 mg BID, and in children it is 5 mg/kg/day in two divided doses.

Side effects of Oseltamivir can include nausea and vomiting. The daily dose for adults is 75 mg twice a day for treatment, and 75 mg once a day for prophylaxis. Pediatric dosing depends on the child's weight [i.e. For treatment: 60 mg BID for >23-40 kg; 45 mg BID for >15-23 kg; 30 mg BID for ≤ 15 kg].

Zanamivir can cause bronchospasm. Zanamivir inhalation is given twice a day for treatment of influenza (it is not licensed for prophylaxis).

Additional Information

For more detailed information about antiviral medications, see: *www.cdc.gov/flu/professionals/treatment* or*www.azdhs.gov/flu/pdf/fluantiviralclinicianfactsheet.doc*

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Table 2: Length of Antiviral Treatment and Chemoprophylaxis

Medicine	Treatment	Chemoprophylaxis			
		After exposure	After vaccine	Children needing 2 vaccines**	Institutional outbreak
Amantadine	3-5 days*	7 days	2 weeks	6 weeks	Until outbreak is over
Rimantadine					
Oseltamivir	5 days				
Zanamivir					

* Until afebrile 1-2 days
**Children < 9 years receiving influenza vaccine for the 1st time need 2 doses to achieve optimal efficacy

Imported Vaccine-Associated Paralytic Poliomyelitis – Arizona, 2005

Reported by: Infectious Disease Epidemiology Section, ADHS; Yavapai County Department of Community Health Services; and the Centers for Disease Control and Prevention.

Case Report:

In March 2005, a 22-year old Arizona woman developed paralytic poliomyelitis while traveling in Latin America. She was taking part in a university-sponsored study abroad program in Costa Rica and living with a local family for about 1 month when she visited Colombia for 3 days. On March 3, two days after returning to Costa Rica, she reported having a sore throat, neck and back pain. Over the next 24 hours, her symptoms worsened to include fever and headache. She was treated at a local hospital for a kidney infection. On March 6, she experienced acute leg weakness and was hospitalized locally and soon transferred to a hospital in San Jose, Costa Rica. On March 9, she was emergently transported by air from San Jose, Costa Rica to Phoenix, Arizona for further evaluation.

Upon admission to a hospital in Arizona, she had bilateral areflexic lower extremity weakness and respiratory failure requiring intubation. Cerebrospinal fluid (CSF) studies on March 9 showed pleocytosis and elevated protein with normal glucose levels. Electrodiagnostic studies displayed reduced compound muscle action potentials (CMAPs) and normal sensory nerve action potentials (SNAPs), and widespread denervation, consistent with a severe, asymmetric process involving anterior horn cells or motor axons. MRI of the cervical and thoracic spine demonstrated signal abnormality in the anterior

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Pertussis: The Outbreak and the Future

by David Engelthaler, State Epidemiologist

As a health care practitioner in the state, you know that Arizona had a state-wide pertussis outbreak this year. This is the first time that such a state-wide outbreak had been recorded in Arizona. Typically we have local or regional outbreaks which tend to occur every three to five years. In the past we have had relatively few effective tools to respond to pertussis outbreaks, primarily accelerating the immunization schedule and increasing surveillance and prophylaxis. This year we were able to expand our toolkit, with two new vaccines, and hopefully made a greater and lasting impact.

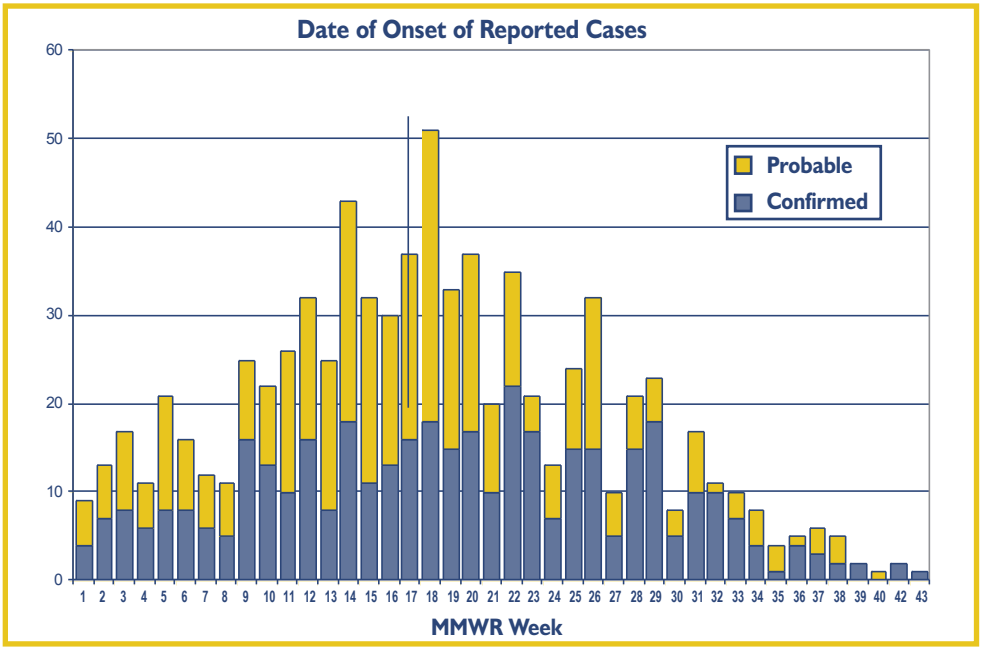
In April and early May of 2005, the Arizona Department of Health Services (ADHS) received reports from several counties of increase pertussis activity, including in middle schools and high schools. Earlier in the spring, Pima County had declared a county-wide outbreak because of increased local activity. On May 19, 2005 ADHS declared a state-wide outbreak, identifying above-average level activity in more than half of Arizona's fifteen counties.

In order to respond to the outbreak, the Department took the following steps:

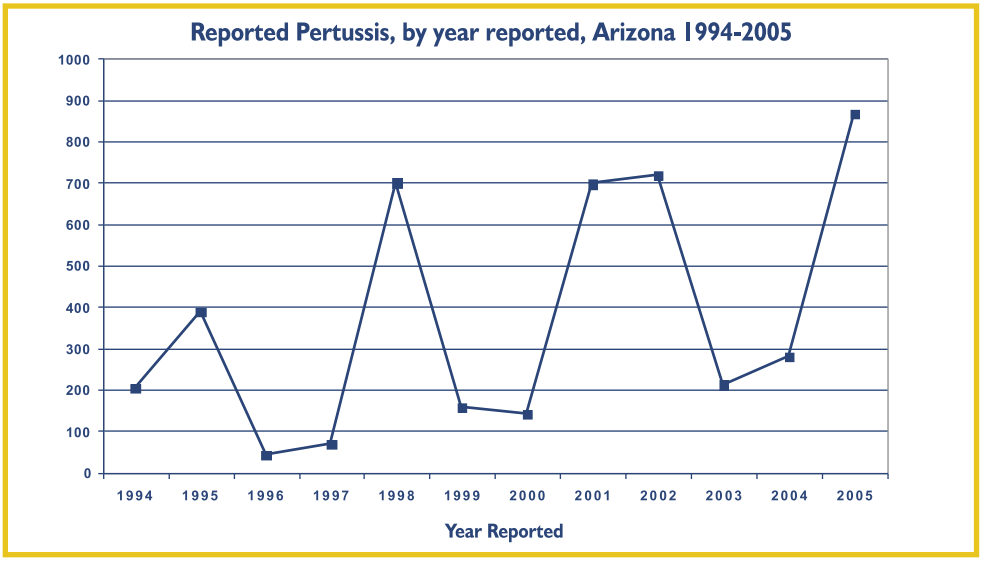
- requested that local health department increase surveillance for more cases and enhance the use of prophylaxis;
- requested that pediatricians accelerate the childhood immunization schedule;
- increased public awareness through media and marketing campaigns;
- provided recommendations to health care providers on limiting the spread of illness in birthing facilities.

These are the standard public health responses to pertussis outbreaks and primarily focus efforts on infants and children.

The overall effectiveness of these actions is unknown, but is probably limited. While the youngest children are the most at risk to serious illness,



Data in epidemiological curve represent cases reported to ADHS with onset date, tracked by CDC's MMWR week. Suspect cases under investigation are not shown. (11/04/2005 data; n=782)



it may be the adults and adolescents that keep an outbreak going, and probably keep pertussis endemic in a community. This is due to the fact that there have been no vaccines available for this population and adolescents and adults have little lasting immunity from their childhood vaccinations. Therefore, while morbidity is not high in adolescents and adults, they are acting as the reservoir for continual re-infection into the pediatric population.

That paradigm all changed this year. In May of 2005, a new acellular pertussis vaccine (Tdap – Boostrix ®) was approved for immunization of adolescents (10-18 years old). This new vaccine, along with a booster approved in June 2005 for both adolescents and adults (Tdap- Adacel®), provided tools to attack pertussis at its source. To that end, the Governor signed an Executive Order to allow the purchase of the new booster vaccines for the outbreak response. This was the first such effort nation-wide.

These vaccine were purchased and supplied to the county health departments for use in adolescents

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and adults who had an infant in the house or who were infant caretakers. Health care providers were also urged to provide these boosters to patients that fit this targeted category. In order to help determine the effectiveness of this campaign the Department decided to conduct an evaluation study, which is still underway.

On October 11, 2005, the Department officially declared an end to the state-wide outbreak, as activity levels had decreased back to endemic levels in most counties. In the end, Arizona had the most cases seen in at least a decade (n = 874) and had widespread activity across the state. While measuring the effectiveness of preventing cases is difficult, these new weapons to fight pertussis may have helped lessen the severity of the outbreak. These new boosters should also help limit or prevent future outbreaks as well. This can only be done with the help of Arizona's health care practitioners. We must continue on with our vigilance, and the best way to do this is to follow the recent ACIP recommendations:

- Adolescents 11-12 be given Tdap instead of the Td booster
- Adolescents 13-18 who missed the booster
- Adolescents who received Td more than 5 years ago
- Adults 19-64 who have not received Td in 10 years (exception is for those with close contact to infants <12 months; a 2 year interval between Td and Tdap is acceptable)

By following these guidelines, and quickly responding to suspect outbreaks, hopefully we can make this the last state-wide outbreak of pertussis, and some day make pertussis go the way of the other vaccine-preventable childhood diseases.

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Racial Disparities Among HIV/AIDS and STD Diagnoses in Arizona, 1999-2004

by S. Robert Bailey and Melanie Taylor, MD, MPH

Minority populations in Arizona, particularly non-Hispanic Blacks are disproportionately affected by sexually transmitted diseases (STDs) and HIV/AIDS. These disparities are observed regardless of geographic region of the state, behavioral risk group, gender or age. Heightened awareness of these disparities is needed in order to foster increased opportunities for STD/HIV screening, diagnosis, treatment and prevention in minority populations at-risk.

Current HIV surveillance data (1999-2004) demonstrate that non-Hispanic Blacks in Arizona are 3.3 times more likely than non-Hispanic Whites to have HIV infection, and 4.5 times more likely to be newly diagnosed with HIV. The rate of HIV diagnosis among non-Hispanic Black women is rising, while rates among women of all other racial/ethnic groups remain relatively stable (Figure 1). During 2003 and 2004 the number of emergent HIV diagnoses among non-Hispanic Black women (3.1% of the population of women, 33.3% of new cases) was greater than the number among either non-Hispanic White women (62.0% of the population of women, 29.6% of new cases), or Hispanic women (27.8% of the population of women, 29.2% of new cases).

During 1999-2004, the rates of syphilis and gonorrhea declined considerably among non-Hispanic Blacks. However, during 2004, the rates of syphilis and gonorrhea among non-Hispanic Blacks were 5 and 12 times greater than for non-Hispanic Whites respectively. Rates of syphilis, gonorrhea, and chlamydia have increased among Native Americans between 2003-2004. Chlamydia rates reflect significant racial disparities among non-Hispanic Blacks, Hispanics, and Native Americans as compared to non-Hispanic Whites and Asians.

Increased provider and community awareness of racial disparities in STD/HIV diagnoses can help in the identification and referral of populations at risk. Current CDC guidelines recommend chlamydia screening of all sexually active women between the ages of 15-25 years of age regardless of symptoms [1]. Testing for HIV is recommended for all persons who seek evaluation and treatment for any STDs[2]. Other STD/HIV screening should target individuals engaging in high-risk sexual behaviors that include but are not limited to sex with multiple partners, unprotected sex, prior history of an STD, prior incarceration, sex with an infected partner, and current or previous history of drug use. Providers should endeavor to collect sexual risk assessments in order to guide STD and HIV testing. Patient education regarding the consistent and correct use of condoms can assist in the prevention of HIV and STDs. Adherence to STD/HIV screening recommendations is important for providers and community organizations delivering care and support services to minority populations at risk.

1. Centers for Disease Control and Prevention. Screening tests to detect Chlamydia trachomatis and Neisseria gonorrheae infections 2002.MMWR 2002;51 (No. RR-15): pp 37.

2. Centers for Disease Control and Prevention. Sexually transmitted diseases treatment guidelines 2002. MMWR 2002;51 (No. RR-6). Pp 2.

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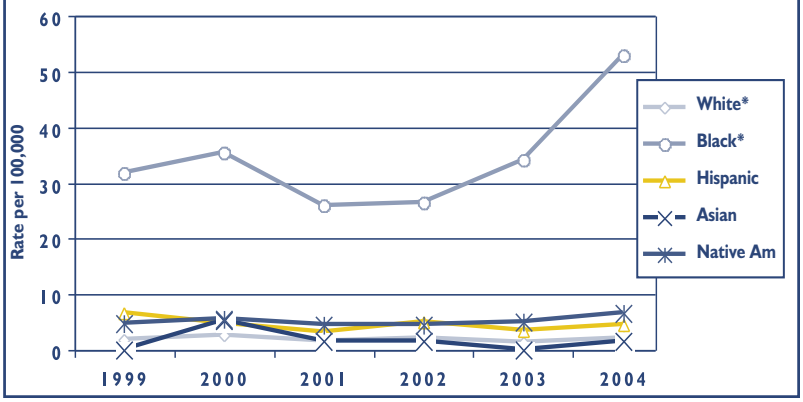
FIg.1: Emergent HIV/AIDS Among Women by Race/Ethnicity, Arizona, 1999-2004



Noteworthy

Mexican-Style Soft Cheese Advisory

by Bob Gomez, R.S., M.P.H.

The U.S. Food and Drug Administration (FDA) recently issued a health advisory for certain types of soft cheese made from raw (unpasteurized) milk. The advisory warned that certain types of raw milk soft cheese could cause serious infections including, listeriosis, brucellosis, salmonellosis, and tuberculosis, particularly in high-risk groups including, pregnant women, newborns, older adults, and people with weakened immune systems. Bacteria can contaminate foods and without adequate pasteurization, the bacteria can survive and multiply. Listeriosis is the emerging infection of concern with raw milk soft cheese. An estimated 2,500 persons become ill with listeriosis each year in the United States and of these, 500 die. Symptoms include fever, muscle ache, and sometimes nausea or diarrhea. If the infection spreads, headache, stiff neck, confusion, loss of balance, or convulsions may occur. The incubation period ranges from 3 – 70 days.

Raw milk soft cheese from Mexico and Central American countries presents the most concern. These cheeses are typically made from raw milk in non-commercial settings with questionable sanitary conditions and are transported to the United States in personal luggage and belongings. Non-commercial quantities of this cheese can be transported across the border without any restrictions. The FDA is currently looking at tighter restrictions on non-commercial entries. In addition, personal domestic production of this cheese in the United States is on the rise. Common Mexican-style raw milk soft cheese including queso blanco, queso fresco, and Panela are very popular among the Hispanic community. Arizona County Health Department inspectors have observed these cheeses being sold at flea markets, door-to-door, in shopping center parking lots, and out of personal vehicles. Although personal production and consumption is legal, commercial activity is illegal and prohibited.

The Arizona Department of Health Services recommends that consumers do not eat any type of raw milk soft cheese. Pregnant women are about 20 times more likely than other healthy adults to get listeriosis. Infections during pregnancy can lead to miscarriage, stillbirth, premature delivery, or infection of the newborn.

In addition to avoiding consumption of raw milk and products made from raw milk, the Centers for Disease Control and Prevention (CDC) have provided these general recommendations to reduce the risk for listeriosis:

- Thoroughly cook raw food from animal sources,
- Separate raw meat, poultry and seafood from vegetables and ready-to-eat foods,
- Wash hands and food contact surfaces after handling raw foods,
- Properly refrigerate perishable foods.

Additional CDC recommendations for persons at high risk:

- Do not eat hot dogs, deli meats, or luncheon meats unless they are reheated until steaming hot.
- Avoid getting fluid from hot dog packages on other foods, utensils, and food contact surfaces, and wash hands after handling hot dogs, deli meats, and luncheon meats.
- Do not eat soft cheeses such as feta, Brie, Camembert, blue veined cheeses or Mexican-style cheeses unless they have labels that clearly state they are made from pasteurized milk.
- Do not eat refrigerated pates or meat spreads. Canned and shelf-stable pates and meat spreads may be eaten.
- Do not eat refrigerated smoked seafood unless it is an ingredient in a cooked dish, such as a casserole. Canned and shelf-stable smoked seafoods may be eaten.

Bob Gomez, R.S., M.P.H., is the ADHS program manager for the Food Safety and Environmental Services Section.

Pneumococcal Vaccination Promotion in Arizona

Infections with bacterial pathogens such as Streptococcus *pneumoniae,* are the main cause of severe illnesses and deaths associated with influenza in the high risk groups. Pneumococcal vaccines, administered to high-risk groups of the population, can significantly reduce the incidence of this secondary infection and reduce illness and death from with influenza. Increasing pneumococcal vaccine coverage in high-risk groups can reduce the public health impact of the annual flu season as well as the impact of an influenza pandemic.

The adult pneumococcal vaccine was first licensed in 1977 and administered primarily to adults 65 and older and persons >2 years of age with specific chronic illnesses (Brand name is Pneumovax®). One dose is recommended for adults after the 65th birthday. Approximately 65% of the adults Arizonans age 65+ have had a pneumococcal immunization.

The pediatric pneumococcal vaccine was first licensed in 2000 (Brand name Prevnar®). This vaccine is for children <24 months of age and children age 24-59 months with a high-risk medical condition. The recommended vaccination schedule is 4 doses administered at 2, 4, 6, and 12 months of age. Approximately 73% of Arizona's 2 year old children have received at least 3 doses of the childhood pneumococcal vaccine.

Vaccinating your patients with the pneumococcal vaccine will save lives during normal influenza seasons as well as better prepare your patients in advance of an influenza pandemic.

Thank you to Health Care Providers

It will be very difficult for the ArIlt would be very difficult for the Arizona Department of Health Services to present its monthly summary of selected reportable diseases without receiving Communicable Disease Report (CDR) forms from providers. Disease reporting by health care providers enables us to capture any unusual pattern in morbidity trends. ADHS appreciates your efforts and teamwork.

SUMMARY OF SELECTED REPORTABLE DISEASES

Year to Date (January - October, 2005)[1, 2]

	Jan - Oct 2005	Jan - Oct 2004	5 Year Median Jan - Oct
VACCINE PREVENTABLE DISEASES:			
Haemophilus influenzae, serotype b invasive disease (<5 years of age)	1 (0)	0 (0)	4 (3)
Measles	1	0	0
Mumps	0	2	2
Pertussis (confirmed)	869 (434)	201 (118)	201 (106)
Rubella (Congenital Rubella Syndrome)	0 (0)	0 (0)	0 (0)
FOODBORNE DISEASES:			
Campylobacteriosis	761	685	620
E.coli O157:H7	35	21	35
Listeriosis	10	7	12
Salmonellosis	565	570	570
Shigellosis	422	339	417
VIRAL HEPATITIDES:			
Hepatitis A	187	222	268
Hepatitis B: acute	324	216	204
Hepatitis B: non-acute	951	1,026	793
Hepatitis C: acute	0	1	7
Hepatitis C: non-acute (confirmed to date)	6,681 (3,662)	8,836 (3,144)	7,715 (3,406)
INVASIVE DISEASES:			
Streptococcus pneumoniae	544	548	651
Streptococcus Group A	223	197	197
Streptococcus Group B in infants <90 days of age	43	38	33
Methicillin-resistant Staphylococcus aureus[3]	1,232	N/A	N/A
Meningococcal Infection	34	11	26
SEXUALLY TRANSMITTED DISEASES:			
Chlamydia	14,995	13,592	12,103
Gonorrhea	3,323	3,268	3,268
P/S Syphilis (Congenital Syphilis)	153 (22)	138 (35)	160 (24)
DRUG-RESISTANT BACTERIA:			
TB isolates resistant to at least INH (resistant to at least INH & Rifampin)	12 (0)	16 (2)	9 (1)
Vancomycin resistant Enterococci isolates	1,665	1,083	841
VECTOR-BORNE & ZOONOTIC DISEASES:			
Hantavirus Pulmonary Syndrome	5	1	1
Plague	0	0	0
West Nile virus Infection	103	387	N/A
Animals with Rabies[4]	158	105	105
ALSO OF INTEREST IN ARIZONA:			
Coccidioidomycosis	2,594	2,992	2,116
Tuberculosis	178	167	174
HIV	637	401	370
AIDS	478	433	421

1 Data are provisional and reflect case reports during this period.
2 These counts reflect the year reported or tested and not the date infected.
3 MRSA was not reportable before October 2004.
4 Based on animals submitted for rabies testing.

Data compiled by Offices of Infectious Disease and Office of HIV/AIDS Services

Prevention bulletin

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Imported Vaccine-Associated Paralytic Poliomyelitis

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cord, indicative of anterior horn cell involvement. Serologic results for antibodies specific for West Nile and dengue viruses were negative. Stool specimens collected on March 20 were positive for Sabin strain polio virus types 2 and 3 at the CDC polio reference laboratory; no other enteroviruses were identified. The results of serologic tests for all 3 serotypes were greater than 1:10 for both acute and convalescent specimens. Sixty days after the onset of weakness, she had residual weakness of both legs. According to the new epidemiologic and laboratory classification of paralytic poliomyelitis cases, this case is classified as imported vaccine-related poliovirus with onset of illness within 30 days before entry into the United States.

The patient had no history of vaccination with either oral polio vaccine (OPV) or inactivated polio vaccine (IPV). The Costa Rican family household that she lived with had young children, ages ~6 months, 3 years, 7 years, and 8 years, although the exposure history provides no clear epidemiological link to an oral polio vaccine (OPV) recipient. The case had no underlying medical or immunocompromising conditions.

Implications:

Cases of paralytic poliomyelitis are now rare in the United States due to the success of the U.S. childhood immunization program and the global Polio Eradication Initiative (PEI). In the United States, the last cases of paralytic poliomyelitis caused by indigenous and imported wild polioviruses occurred in 1979 and 1993, respectively. Since the early 1960s, when trivalent oral polio vaccine (OPV) became the vaccine of choice for the childhood immunization program, about 8-10 VAPP cases have occurred annually. To reduce the risk of VAPP, the United States switched to a sequential inactivated polio vaccine (IPV)--OPV schedule (1997) and then to an all-IPV schedule (2000). This policy change resulted in elimination of VAPP in the U. S. [1]. Prior to this report, the last VAPP case occurred in 1999. High polio vaccine coverage rates have been maintained among children 19-35 months with the transition from OPV to IPV. In 2004, 92% of children in this age group received 3 doses of IPV as part of the routine infant and child immunization schedule (NIS).

Polio vaccination is already recommended for persons traveling to polio-endemic countries. However, this case may lead to a change in vaccine recommendations for travelers to countries routinely using OPV.

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References

1. Alexander LN, Seward JF, Santibanez TA, et al. Vaccine Policy Changes and Epidemiology of Poliomyelitis in the United States. JAMA 2004; 292:1696-1701.